

## TOOL SUMMARY FORM (PER TOOL)

[illegible]

## SINGLE TEST RECORD FORM

<b>Test No: 1</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 2</b>
<b>Test files:</b>			
<b>Import</b>		<b>Export</b>	
ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTISOE_16_BE_EQ.xml ENTISOE_16_BE_TP.xml ENTISOE_16_BE_SV.xml		No export requested	
<b>Comments/Results/Issues:</b>			
Importation of the BE grid and the boundary set of the second edition profile and run the load flow calculation. One slack had to be define in the BE grid to solve the load flow calculation.  The importation of ZIP files is not actually developed, but could be introduce in a next version if requested.			
<b>Isphen results</b>			
<pre> ISPEN/IPFA PL POWER FLOW RESULTS BASE CASE OF 13.07.11 09:30 0 *****           SSSSSSSSSS  GGGGGGGG           SSSSSSSSSS  GGGGGGGG           SSS          GGG           SSSSSSSSSSSS  GGG  GGGGGG           SSSSSSSSSSSS  GGG  GGGGGG           SSS          GGG  GG           SSSSSSSSSS  GGGGGGGG           SSSSSSSSSS  GGGGGGGG           ***** 0 0 POWER FLOW ** POWER FLOW ***** 0 BASE CASE FILES : 0 IPFA : ----- NETWORK MODEL : ENTISOE_16_EQ.XML TOPOLOGY&amp;TAPS : ENTISOE_16_TP.XML INJECTIONS : ENTISOE_16_SV.XML 0 COMMENTS : ----- NETWORK MODEL : EQ : CIM/XML Equipment file TOPOLOGY&amp;TAPS : TP : CIM/XML Topology file INJECTIONS : SV : CIM/XML statevariable file : VARIANT : EQ : CIM/XML Equipment file 0 NETWORK SIZE : USED ----- NUMBER SUBSTATIONS : 10 NUMBER NODES : 11 NUMBER LINES : 7 NUMBER 2W-TRAFOS : 3 NUMBER 3W-TRAFOS : 1 NUMBER SHUNTS : 2 NUMBER GENERATORS : 2 NUMBER LOADS : 7           </pre>			
<b>Supplementary files:</b>			
T1_V2_Nodes.LIS			
<b>Date</b>	<b>Vendor</b>	<b>Test witness</b>	
11.07.2011	<b>Name</b>	<b>Name</b>	<b>Signature</b>
	I. Nordanlycke	J.P Fernandez	

## SINGLE TEST RECORD FORM

<b>Test No: 2</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 2</b>
<b>Test files:</b>			
<b>Import</b>		<b>Export</b>	
ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTISOE_16_BE_EQ.xml ENTISOE_16_BE_TP.xml ENTISOE_16_BE_SV.xml		ENTISOE_BE_V2_IS_TP.XML ENTISOE_BE_V2_IS_SV.XML	
<b>Comments/Results/Issues:</b>			
<p>Import of the second profile version of the BE grid and the Boundary files          Export the merged model in 1 TP file and 1 SV file. The EQ files are not modified.          Export of ZIP files is not actually developed, but could be introduced in a next version if requested. A comparison between the results of the imported model and of the exported model is done to show exactly the same results.</p> <p>The CIMDesk validation shows an error which has to be corrected in the SV file. The others errors are in the original EQ file.</p>			
<b>ISPEN Results</b>			
<pre> ISPEN/IPFA PL POWER FLOW RESULTS BASE CASE OF 11.07.11 14:29 0 *****           SSSSSSSSS      GGGGGGGG           SSSSSSSSS      GGGGGGGG           SSS             GGG           SSSSSSSSSSSS    GGG  GGGGG           SSSSSSSSSSSS    GGG  GGGGG           SSS             GGG  GG           SSSSSSSSSSSS    GGGGGGGG           SSSSSSSSS      GGGGGGGG           ***** 0           POWER FLOW      **      POWER FLOW           ***** 0 BASE CASE FILES 0 IPFA : ----- NETWORK MODEL : ENTISOE_V2_EQ.XML TOPOLOGY&amp;TAPS : T07111419_TP.XML INJECTIONS     : E07111419_SV.XML 0 COMMENTS : ----- NETWORK MODEL : EQ : CIM/XML BE &amp; BOUNDARY TOPOLOGY&amp;TAPS : TP : BACKUP BE &amp; BOUNDARY INJECTIONS     : SV : BACKUP BE &amp; BOUNDARY VARIANT SIZE   : EQ : CIM/XML BE &amp; BOUNDARY ONETWORK SIZE  : USED ----- NUMBER SUBSTATIONS : 10 NUMBER NODES       : 13 NUMBER LINES       : 7 NUMBER 2W-TRAFOS   : 3 NUMBER 3W-TRAFOS   : 1 NUMBER SHUNTS      : 2 NUMBER GENERATORS  : 2 NUMBER LOADS       : 7           </pre>			

## CIMDesk Validation

Model Explorer: ENT50-16-BE-EQ

Model View: [ENT50-16-BE-EQ] Validation Results (Power Flow)

Errors: 6 Warnings: 5 Alerts: 73 Displays: Errors and Warnings

Type	Class	Recurrence	Description
Error	ACLineSegment	1/1	The ACLineSegment contains an invalid value for Association ConductingEquip. The referenced object doesn't exist.
Error	Name	1/1	The Name contains an invalid value for Association Name/NameType. The referenced object doesn't exist.
Error	PowerTransformerEnd	1/1	The PowerTransformerEnd contains an invalid value for Association Transformer/End.BaseVoltage. The referenced object doesn't exist.
Error	TopologicalNode	1/1	The TopologicalNode contains an invalid value for Association TopologicalNode.BaseVoltage. The referenced object doesn't exist.
Error	VoltageLevel	1/1	The VoltageLevel contains an invalid value for Association VoltageLevel.BaseVoltage. The referenced object doesn't exist.
Error	SVTapStep	1/1	Missing required attribute SVTapStep position for all SVTapSteps.
Warning	TopologicalNode	1/1	More than 2 Terminals are associated with TopologicalNode via Association Terminal.TopologicalNode, expecting at least 2.
Warning	SVTapStep	1/1	Property SVTapStep.continuousPosition is undeclared for Class SVTapStep in the profile.
Warning	TopologicalNode	1/1	Property IdentifiedObject.description is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	1/1	Property TopologicalNode.ControlArea is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	1/1	Property TopologicalNode.equivalent is undeclared for Class TopologicalNode in the profile.

Validation results displayed: Local intranet | Protected Mode: Off | 1569 | 14/07/2011

**Supplementary files:**  
T2\_V2\_BE\_Nodes.Lis

Date	Vendor	Test witness
13.07.2011	Name I. Nordanlycke	Name J.P. Fernandez
	Signature 	Signature 

## SINGLE TEST RECORD FORM

<b>Test No: 3</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 4</b>
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<b>Test files:</b>	
<b>Import</b>	<b>Export</b>
ENTISOE_16_IN_12J1545h_BE_EQ.xml ENTISOE_16_IN_12J1545h_BE_TP.xml ENTISOE_16_IN_12J1545h_BE_SV.xml ENTISOE_16_IN_12J1545h_EU_EQ.xml ENTISOE_16_IN_12J1545h_EU_TP.xml	No export requested

**Comments/Results/Issues:**

Comparison on the results of an exported case from FGH in the second profile:  
BE grid and the boundary files

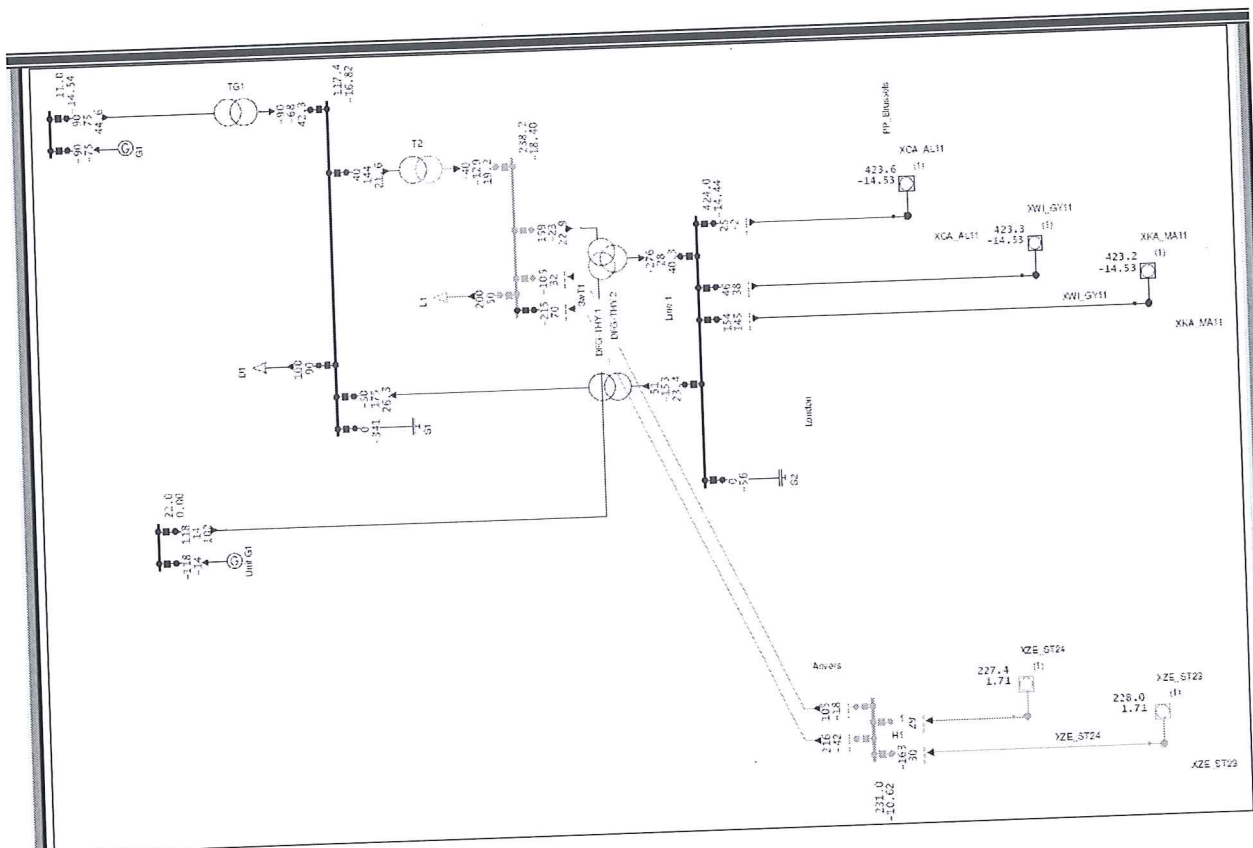
After modifying one node from PU to PQ in the exported model we obtain the same results on the Flows (P and Q) and the voltages at the nodes with a maximal difference of less as 1%

**ISPEN Results**

```

ISPEN/IPFA PL POWER FLOW RESULTS SIMULATION OF 13.07.11 10:39
*****
0
      SSSSSSSSS      GGGGGGGGG
      SSSSSSSSS      GGGGGGGGG
      SSS      GGG
      SSSSSSSSSSSSS      GGG      GGGGGG
      SSSSSSSSSSSSS      GGG      GGGGGG
      SSS      GGG      GG
      SSSSSSSSS      GGGGGGGGG
      SSSSSSSSS      GGGGGGGGG
*****
0
      POWER FLOW      **      POWER FLOW
*****
0
OBASE CASE FILES :
0 IPFA :
-----
NETWORK MODEL : ENTISOE_16_EQ.XML
TOPOLOGY&TAPS : ENTISOE_16_TP.XML
INJECTIONS : ENTISOE_16_SV.XML
0 COMMENTS :
-----
NETWORK MODEL : EQ : CIM/XML Equipment file
TOPOLOGY&TAPS : TP : CIM/XML Topology file
INJECTIONS : SV : CIM/XML StateVariable file
VARIANT : EQ : CIM/XML Equipment file
ONETWORK SIZE : USED
-----
NUMBER SUBSTATIONS : 10
NUMBER NODES : 11
NUMBER LINES : 7
NUMBER 2W-TRAFOS : 3
NUMBER 3W-TRAFOS : 1
NUMBER SHUNTS : 2
NUMBER GENERATORS : 2
NUMBER LOADS : 7
          
```

**FGH Results**



**Supplementary files:**  
T3\_V2\_BE\_Nodes\_PQ.LIS

Date	Vendor	Signature	Test witness	Signature
13.07.2011	Name		Name	
	I. Nordanlycke	<i>[Signature]</i>	J.P. Fernandez	<i>[Signature]</i>

## SINGLE TEST RECORD FORM

<b>Test No: 4</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 2</b>
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<b>Test files:</b>	
<b>Import</b> ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTISOE_16_BE_EQ.xml ENTISOE_16_BE_TP.xml ENTISOE_16_BE_SV.xml	<b>Export</b> ENTISOE_BE_T4_V2_IS_TP.XML ENTISOE_BE_T4_V2_IS_SV.XML

**Comments/Results/Issues:**

Import and modify the topology of the second profile version of the BE grid.  
 Export the modified model as 1 TP file and 1 SV file. The transformer "1" is disconnected.  
 Export of ZIP files is not actually developed, but could be introduced in a next version if requested.  
 The CIMDesk validation shows an error which has to be corrected in the SV file. The other errors are in the original EQ file.

**ISPEN Result on the topological modification**

BEPPBRU40000		489.9 KV	-9.44 °	PQ-TYPE
TOTAL NODE POWER		0.0 MW	0.0 MVar	

=> NODE	P-FLOW [MW]	Q-FLOW [MVar]	TOTAL [MW]	LOSSES [MVar]	in Y [MVar]	LOADING [%]	LIMIT	ISO	TAPING I D/Q
BEPPBRU11051	0.0	0.0	0.00	0.00	0.0	0.0	650 S	ELIA	23


**CIMDesk Validation**

Errors: 6 Warnings: 5 Alerts: 75 Display: Errors and Warnings ▼			
Type	Class	Recurrence	Description
Error	ACLineSegment	2/2	The ACLineSegment contains an invalid value for Association ConductingEquipment. Detailed description about the referenced object doesn't exist.
Error	Name	2/2	The Name contains an invalid value for Association Name.NameType. The referenced object doesn't exist.
Error	PowerTransformerEnd	2/2	The PowerTransformerEnd contains an invalid value for Association TransformerEnd.BaseVoltage. The referenced object doesn't exist.
Error	TopologicalNode	2/2	The TopologicalNode contains an invalid value for Association TopologicalNode.BaseVoltage. The referenced object doesn't exist.
Error	VoltageLevel	4/6	The VoltageLevel contains an invalid value for Association VoltageLevel.BaseVoltage. The referenced object doesn't exist.
Error	SvTapStep	4/4	Missing required Attribute SvTapStep.position for all SvTapSteps.
Warning	TopologicalNode	5/11	Fewer than 2 Terminals are associated with TopologicalNode via Association Terminal.TopologicalNode, expecting at least 2.
Warning	SvTapStep	4/4	Property SvTapStep.continuousPosition is undeclared for Class SvTapStep in the profile.
Warning	TopologicalNode	11/11	Property IdentifiedObject.description is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	11/11	Property TopologicalNode.ControlArea is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	11/11	Property TopologicalNode.equivalent is undeclared for Class TopologicalNode in the profile.

**Supplementary files:**  
T4\_V2\_BE\_Nodes.LIS

<b>Date</b>	<b>Vendor</b>	<b>Test witness</b>	
13.07.2011	<b>Name</b>	<b>Name</b>	<b>Signature</b>
	I. Nordanlycke	J.P. Fernandez	

## SINGLE TEST RECORD FORM

<b>Test No: 5</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 2</b>
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**Test files:**

<b>Import</b>	<b>Export</b>
ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTISOE_16_BE_EQ.xml ENTISOE_16_BE_TP.xml ENTISOE_16_BE_SV.xml	ENTISOE_BE_T5_V2_IS_SV.XML

**Comments/Results/Issues:**

Import and modify the production of the second profile version of the BE grid  
 Export the modified model as 3 xml files.  
 Augmentation of the production on the generator "G1" from 90 to 190MW.  
 Export of ZIP files is not actually developed, but could be introduce in a next version if requested  
 The CIMDesk validation show an error which has to be corrected in the SV file. The others errors are in the original EQ file.

**ISPEN Results on the modification of production**

BEPPBRUG10F5	11.3 KV	9.56 *	PQ-TYPE
TOTAL NODE POWER		-190.0 MW	-100.3 MVar
		-190.0 MW	-100.3 MVar

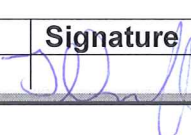

PQ ID= GE000001

=> NODE	P-FLOW [MW]	Q-FLOW [MVar]	TOTAL LOSSES [MW]	LOSSES [MVar]	In Y [MVar]	LOADING [%]	LIMIT	ISO	TAPING I D/Q *
BEPPBRU11051	190.0	100.3	0.58	20.14	1.2	85.9	250 S	ELIA	26

**CIMDesk Validation**

Errors: 6 Warnings: 5 Alerts: 75 Display: Errors and Warnings			
Type	Class	Recurrence	Description
Error	ACLineSegment	2/2	The ACLineSegment contains an invalid value for Association ConductingEquipment.BaseVoltage. The referenced object doesn't exist.
Error	Name	2/2	The Name contains an invalid value for Association Name.NameType. The referenced object doesn't exist.
Error	PowerTransformerEnd	2/2	The PowerTransformerEnd contains an invalid value for Association TransformerEnd.BaseVoltage. The referenced object doesn't exist.
Error	TopologicalNode	2/2	The TopologicalNode contains an invalid value for Association TopologicalNode.BaseVoltage. The referenced object doesn't exist.
Error	VoltageLevel	2/2	The VoltageLevel contains an invalid value for Association VoltageLevel.BaseVoltage. The referenced object doesn't exist.
Error	SvTapStep	2/2	Missing required Attribute SvTapStep.position for all SvTapSteps.
Warning	TopologicalNode	2/2	Fewer than 2 Terminals are associated with TopologicalNode via Association Terminal.TopologicalNode, expecting at least 2.
Warning	SvTapStep	2/2	Property SvTapStep.continuousPosition is undeclared for Class SvTapStep in the profile.
Warning	TopologicalNode	2/2	Property IdentifiedObject.description is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	2/2	Property TopologicalNode.ControlArea is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	2/2	Property TopologicalNode.equivalent is undeclared for Class TopologicalNode in the profile.

**Supplementary files:**  
 T5\_V2\_BE\_Nodes.LIS

<b>Date</b>	<b>Vendor</b>	<b>Test witness</b>
13.07.2011	<b>Name</b> I. Nordanlycke	<b>Name</b> J.P. Fernandez
	<b>Signature</b> 	<b>Signature</b> 

Page 1 of 1

ENTSO-E AISBL • Avenue Cortenbergh 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

## SINGLE TEST RECORD FORM

<b>Test No: 6</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 4</b>																																													
<b>Test files:</b>																																																
<b>Import</b>		<b>Export</b>																																														
ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTISOE_16_Node_BE_NE_11J16h_EQ.xml ENTISOE_16_Node_BE_NE_11J17h_TP.xml ENTISOE_16_Node_BE_NE_11J17h_SV.xml		ENTISOE_BE_T5_V2_IS_EQ.XML ENTISOE_BE_T5_V2_IS_TP.XML ENTISOE_BE_T5_V2_IS_SV.XML																																														
<b>Comments/Results/Issues:</b>																																																
Import of the BE Grid with the topological modification of Neplan and compare the results of the load flow calculation. The topological modification is the disconnection of the tie-line of the x-node "XCA_AL11" Import of ZIP files is not actually developed, but could be introduced in a next version if requested We compare the Flows (P-Q) and the voltages between the both versions and found the same results with the maximal difference smaller as 1%.																																																
<b>ISPEN Results</b>																																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">BEPBRU40000</td> <td>0.0 kV</td> <td>0.00 *</td> <td>NB-TYPE</td> </tr> <tr> <td colspan="2">TOTAL NODE POWER</td> <td>0.0 MW</td> <td>0.0 MVar</td> <td></td> </tr> <tr> <td>=&gt; NODE</td> <td>P-FLOW [MW]</td> <td>Q-FLOW [MVar]</td> <td>TOTAL [MW]</td> <td>LOSSES [MVar]</td> </tr> <tr> <td>XCA_AL1 1</td> <td>0.0</td> <td>0.0</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td></td> <td></td> <td></td> <td>in Y [MVar]</td> <td>LOADING [%]</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0.0</td> <td>0.0</td> </tr> <tr> <td></td> <td></td> <td></td> <td>LIMIT</td> <td>ISO</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1516 I</td> <td>ELIA</td> </tr> <tr> <td></td> <td></td> <td></td> <td>TAPING I D/Q *</td> <td></td> </tr> </table>				BEPBRU40000		0.0 kV	0.00 *	NB-TYPE	TOTAL NODE POWER		0.0 MW	0.0 MVar		=> NODE	P-FLOW [MW]	Q-FLOW [MVar]	TOTAL [MW]	LOSSES [MVar]	XCA_AL1 1	0.0	0.0	0.00	0.00				in Y [MVar]	LOADING [%]				0.0	0.0				LIMIT	ISO				1516 I	ELIA				TAPING I D/Q *	
BEPBRU40000		0.0 kV	0.00 *	NB-TYPE																																												
TOTAL NODE POWER		0.0 MW	0.0 MVar																																													
=> NODE	P-FLOW [MW]	Q-FLOW [MVar]	TOTAL [MW]	LOSSES [MVar]																																												
XCA_AL1 1	0.0	0.0	0.00	0.00																																												
			in Y [MVar]	LOADING [%]																																												
			0.0	0.0																																												
			LIMIT	ISO																																												
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			TAPING I D/Q *																																													
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<b>Supplementary files:</b>																																																
T6_V2_BE_Nodes.LIS																																																
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13.07.2011	<b>Name</b>	<b>Name</b>	<b>Signature</b>																																													
	I. Nordanlycke	J.P. Fernandez																																														

## SINGLE TEST RECORD FORM

<b>Test No: 7</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 4</b>
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<b>Test files:</b>	
<b>Import</b>	<b>Export</b>
ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTISOE_16_Node_BE_NE_11J16h_EQ.xml ENTISOE_16_Node_BE_NE_11J16h_TP.xml ENTISOE_16_Node_BE_NE_11J16h_SV.xml	NO export requested

**Comments/Results/Issues:**

Import of the BE Grid with the modification of production of Neplan and compare the results of the load flow calculation. The modifications are represented as an augmentation of production of 10MW on "F5" due to the augmentation of the last "D1" of 10MW.

Import of ZIP files is not actually developed, but could be introduced in a next version if requested

We compare the Flows (P-Q) and the voltages between the both versions and found the same results with the maximal difference smaller as 1%.

**ISPEN Results**

BEPBRUG10F5		11.0 kV	-14.83 °	PQ-TYPE
TOTAL NODE POWER		-80.0 MW	-99.7 MVAR	PQ ID= GE000002
		-80.0 MW	-99.7 MVAR	

=> NODE	P-FLOW [MW]	Q-FLOW [MVAR]	TOTAL [MW]	LOSSES [MVAR]	in Y [MVAR]	LOADING [%]	LIMIT	ISO	TAPING I D/Q °
BEPBRU11051	80.0	99.7	0.35	8.17	1.1	51.1	250 S	ELIA	26

**Neplan Results**

**Supplementary files:**  
T7\_V2\_BE\_Nodes.LIS

<b>Date</b>	<b>Vendor</b>	<b>Test witness</b>	
13.07.2011	<b>Name</b>	<b>Name</b>	<b>Signature</b>
	I. Nordanlycke	J.P. Fernandez	

## SINGLE TEST RECORD FORM

<b>Test No: 9</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 2</b>
<b>Test files:</b>			
<b>Import</b>		<b>Export</b>	
ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTSOE_16_BE_EQ.xml ENTSOE_16_BE_TP.xml ENTSOE_16_BE_SV.xml ENTSOE_16_NL_EQ.xml ENTSOE_16_NL_TP.xml ENTSOE_16_NL_SV.xml		T9_V2_FULL_IS_SV.XML	
<b>Comments/Results/Issues:</b>			
Import of the BE, NL and Boundary files of the second profile and export the merged model as 1 SV file.			
Import/Export of ZIP files is not actually developed, but could be introduce in a next version if requested			
The CIMDesk validation show an error which has to be corrected in the SV file. The others errors are in the original EQ file.			
<b>ISPEN Results</b>			
<pre>ISPEN/IPFA PL POWER FLOW RESULTS BASE CASE OF 13.07.11 16:27 ***** 0       SSSSSSSSS      GGGGGGGGG       SSSSSSSSS      GGGGGGGGG       SSS      GGG      GGG       SSSSSSSSSSSSS      GGG      GGGGGGG       SSSSSSSSSSSSS      GGG      GGGGGGG       SSS      GGG      GG       SSSSSSSSS      GGGGGGGGG       SSSSSSSSS      GGGGGGGGG ***** 0       POWER FLOW      **      POWER FLOW ***** 0 BASE CASE FILES : 0 IPFA : ----- NETWORK MODEL : ENTSOE_V2_EQ.XML TOPOLOGY&amp;TAPS : ENTSOE_V2_TP.XML INJECTIONS : ENTSOE_V2_SV.XML 0 COMMENTS : ----- NETWORK MODEL : EQ : CIM/XML Equipment file TOPOLOGY&amp;TAPS : TP : CIM/XML Topology file INJECTIONS : SV : CIM/XML StateVariable file : VARIANT : EQ : CIM/XML Equipment file 0NETWORK SIZE : USED ----- NUMBER SUBSTATIONS : 13 NUMBER NODES : 18 NUMBER LINES : 14 NUMBER 2W-TRAFOS : 6 NUMBER 3W-TRAFOS : 1 NUMBER SHUNTS : 3 NUMBER GENERATORS : 5 NUMBER LOADS : 15</pre>			

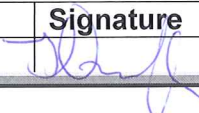

## CIMDesk validation

Errors: 0 Warnings: 6 Alerts: 69 Display: Errors and Warnings ▾

Type	Class	Recurrence	Description
Error	ACLineSegment	12/12	The ACLineSegment contains an invalid value for Association ConductingEquipment.BaseVoltage. The referenced object doesn't exist.
Error	Name	11/13	The Name contains an invalid value for Association Name.NameType. The referenced object doesn't exist.
Error	PowerTransformerEnd	11/15	The PowerTransformerEnd contains an invalid value for Association TransformerEnd.BaseVoltage. The referenced object doesn't exist.
Error	TopologicalNode	12/12	The TopologicalNode contains an invalid value for Association TopologicalNode.BaseVoltage. The referenced object doesn't exist.
Error	VoltageLevel	6/9	The voltageLevel contains an invalid value for Association VoltageLevel.BaseVoltage. The referenced object doesn't exist.
Error	SvTapStep	2/2	Missing required Attribute SvTapStep.position for all SvTapSteps.
Error	Breaker	1/2	The two Terminals of the Breaker are connected to the same node.
Error	TopologicalNode	11/12	The names of ConductingEquipments connected to this TopologicalNode are not unique.
Warning	SvTapStep	2/2	Property SvTapStep.continuousPosition is undeclared for Class SvTapStep in the profile.
Warning	TopologicalNode	12/12	Property IdentifiedObject.description is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	12/12	Property TopologicalNode.ControlArea is undeclared for Class TopologicalNode in the profile.
Warning	TopologicalNode	12/12	Property TopologicalNode.equivalent is undeclared for Class TopologicalNode in the profile.

## Supplementary files:

T9\_V2\_FULL\_Nodes.LIS

Date	Vendor	Signature	Test witness	Signature
13.07.2011	Name		Name	
	I. Nordanlycke		J.P. Fernandez	

## SINGLE TEST RECORD FORM

<b>Test No: 10</b>	<b>Profile edition No: 2</b>	<b>Tool: ISPEN</b>	<b>Score: 3</b>
--------------------	------------------------------	--------------------	-----------------

<b>Test files:</b>	
<b>Import</b> ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_EQ.xml ENTSO-E_Boundary_Set_28_June_2011_2ndEdition_EU_TP.xml ENTSGE_16_Node_BE_NE_13J09h_EQ.xml ENTSGE_16_Node_NL_NE_13J09h_EQ.xml ENTSGE_16_Node_BE_NE_13J09h_TP.xml ENTSGE_16_Node_NL_NE_13J09h_TP.xml ENTSGE_16_Node_FULL_NE_13J09h_SV.xml	<b>Export</b> No export required

**Comments/Results/Issues:**

Import of the merged model of Neplan, run a load flow calculation and compare the results.  
 Import of ZIP files is not actually developed, but could be introduced in a next version if requested

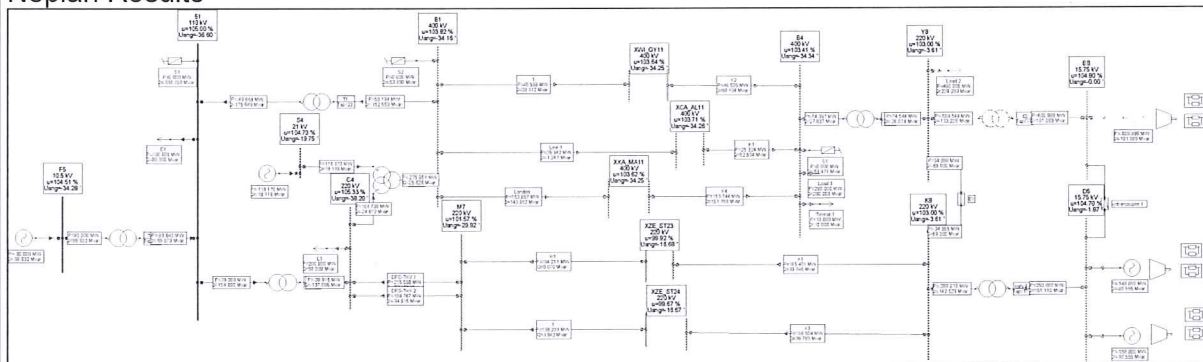
We compare the Flows (P-Q) and the voltages between the both versions. The P flows are very similar (+/- 2%) but the Q flows and the voltages are more different (+/- 7%), perhaps due to the fact that ISPEN don't make any voltage regulation.

**ISPEN Results**

```

ISPEN/IPFA PL POWER FLOW RESULTS BASE CASE OF 14.07.11 16:07
*****
0
          SSSSSSSSSS  GGGGGGGGG
          SSSSSSSSSS  GGGGGGGGG
          SSS          GGG
          SSSSSSSSSSS  GGG  GGGGGG
          SSSSSSSSSSS  GGG  GGGGGG
          SSS          GGG  GG
          SSSSSSSSSS  GGGGGGGGG
          SSSSSSSSSS  GGGGGGGGG
0
*****
0          POWER FLOW          POWER FLOW
0          *****
0 BASE CASE FILES
0 IPFA :
-----
NETWORK MODEL : ENTSGE_16_EQ.XML
TOPOLOGY&TAPS : ENTSGE_16_TP.XML
INJECTIONS    : ENTSGE_16_SV.XML
0 COMMENTS :
-----
NETWORK MODEL : EQ : CIM/XML Equipment file
TOPOLOGY&TAPS : TP : CIM/XML Topology file
INJECTIONS    : SV : CIM/XML StateVariable file
0
VARIANT       : EQ : CIM/XML Equipment file
ONETWORK SIZE : USED
-----
NUMBER SUBSTATIONS : 13
NUMBER NODES       : 18
NUMBER LINES       : 14
NUMBER 2W-TRAFOS   : 6
NUMBER 3W-TRAFOS   : 1
NUMBER SHUNTS      : 3
NUMBER GENERATORS   : 5
NUMBER LOADS       : 15
  
```

## Neplan Results



## Supplementary files:

T10\_V2\_FULL\_Nodes.LIS

Date	Vendor	Test witness
13.07.2011	Name	Name
	I. Nordanlycke	J.P. Fernandez
	Signature	Signature